

July 2015

Chautauqua County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 13 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Chautauqua County economy.¹ These 13 sectors have a total direct output of approximately \$105 million and support 448.1 jobs in Chautauqua County. Running the model for all 13 sectors simultaneously produces the following results:

Agriculture Contribution in Chautauqua County

Impact Type ²	Employment	% of Total Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	448.1	23%	\$26,550,507	24%	\$105,003,714	94%
Indirect Effect	44.9	2%	\$3,838,325	3%	\$7,246,142	6%
Induced Effect	31.7	2%	\$2,166,799	2%	\$3,915,965	3%
Total Effect	524.7	27%	\$32,555,631	29%	\$116,165,821	104%

As shown in the above table, agriculture, food, and food processing supports 524.7 jobs, or 27% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$116 million, roughly 104% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 13 agriculture, food, and food processing sectors is approximately \$33 million, or 29% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 29% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

⁴ GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

⁵ Output = Intermediate Inputs + Value Added

In the top ten by employment, Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming is the top employer in the agriculture industry with 304.2 employees. This table also shows the amount of jobs that are created by the agriculture industry in Chautauqua County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	304.2	\$36,201,769
All other crop farming.....	52.1	\$3,036,908
Other animal food manufacturing.....	39.5	\$57,509,650
Wholesale trade.....	16.4	\$3,702,299
Grain farming	14.6	\$2,352,342
Veterinary services	13.3	\$625,979
Animal production, except cattle and poultry and eggs.....	11.6	\$539,405
Support activities for agriculture and forestry	5.9	\$313,373
Extraction of natural gas and crude petroleum.....	5.0	\$951,262
Full-service restaurants.....	3.9	\$157,882

The Other animal food manufacturing industry directly contributes approximately \$58 million to Chautauqua County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Other animal food manufacturing.....	39.5	\$57,509,650
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	304.2	\$36,201,769
Wholesale trade.....	16.4	\$3,702,299
All other crop farming.....	52.1	\$3,036,908
Grain farming	14.6	\$2,352,342
Oilseed farming.....	2.2	\$2,199,375
Animal, except poultry, slaughtering.....	2.2	\$1,298,214
Owner-occupied dwellings	0.0	\$1,066,224
Extraction of natural gas and crude petroleum.....	5.0	\$951,262
Veterinary services	13.3	\$625,979

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Chautauqua County's economy.

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All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.